

# METAL SHIELDING SHELL FOR ELECTRIC CONNECTOR

## BACKGROUND OF THE INVENTION

### 1. Field of the Invention:

The present invention relates to an electric connector and  
5 more particularly, to a metal shielding shell for electric connector  
that has two front guide rods for positioning during installation of  
the electric connector in a circuit board.

### 2. Description of the Related Art:

Following fast development of computer and electronic  
10 technology, a variety of electronic products have been created and  
intensively used in different fields. In consequence, different  
connectors are required for connection between peripheral  
apparatus and host systems. Suppliers are trying hard to design  
new and stable electric connectors for use in computers and other  
15 electronic apparatus that can easily and quickly be assembled. FIG.  
5 illustrates an electric connector constructed according to the  
prior art.

According to FIG. 5, prior art, the electric connector  
comprises an electrically insulative housing **A**, a terminal holder  
20 block **B** mounted inside the housing **A**, a plurality of terminals **C**  
installed in the terminal holder block **B**, and two grounding plates  
**A1** bilaterally extended out of the housing **A**. During installation,  
the electric connector is put on a circuit board **D**, keeping the

grounding plates **A1** closely attached to the circuit board **D** and the terminals **C** respectively attached to the respective contact fingers **D1** of the circuit board **D**, and then the grounding plates **A1** and the terminals **C** are respectively soldered to the circuit board **D**.

5 The prior electric connector has numerous drawbacks as:

1. The electric connector tends to slip on the circuit board **D** during installation, resulting in difficulty of the bonding of the terminals **C** to the respective contact fingers **D1**.

2. Because the electric connector is fastened to the circuit  
10 board **D** by surface mounting technique, the soldered points tend to be disconnected by vibration or other external factors, causing a malfunction.

3. Because no protective means is provided to protect the terminals **C**, the terminals **C** may be deformed or damaged during  
15 fabrication or transportation.

## **SUMMARY OF THE INVENTION**

The present invention has been accomplished under the circumstances in view. It is therefore an object of the present invention to provide a metal shielding shell for electric connector,  
20 which comprises two front guide rods forwardly extended from the front bonding side thereof for positioning in respective through holes on the circuit board to mount, for enabling the terminals to be bonded to respective contacts at the circuit board. It is another

object of the present invention to provide a metal shielding shell for electric connector, which has two front guide rods bilaterally extended from the front bonding side thereof that protect the bonding ends of the terminals during transportation. It is still  
5 another object of the present invention to provide a metal shielding shell for electric connector, which has two front guide rods for positioning that can be bent inwards/outwards to fit any of a variety of circuit boards.

### **BRIEF DESCRIPTION OF THE DRAWINGS**

10 FIG. 1 is an elevational view of an electric connector having a metal shielding shell constructed according to the present invention.

FIG. 2 is a view showing the positioning of the front guide rods of the metal shielding shell on a circuit board before  
15 assembling according to the present invention.

FIG. 3 is a view of FIG. 3 after assembling.

FIG. 4 illustrates the electric connector installed in another circuit board according to the present invention.

FIG. 5 illustrates an electric connector installed in a circuit  
20 board according to the prior art.

### **DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT**

Referring to FIG. 1, a metal shielding shell 3 is covered on an electrically insulative terminal holder block 1, which holds a

set of terminals 2. The metal shielding shell 3 has a rear connection side 31, a front bonding side 32 opposite to the rear connection side 31, two guide rods 33 bilaterally extended from the front bonding side 32 toward each other, each guide rod 33  
5 having a horizontal base portion 331 formed integral with the front bonding side 32 and a vertical mounting portion 332 downwardly extended from the horizontal base portion 331, and two protruding portions 34 respectively extended from two opposite lateral sides adjacent to the rear connection side 31 for grounding. The  
10 mounting portion 332 may be terminated in a conical tip or round tip. The terminals 2 each have a bonding end 21 forwardly extended out of the terminal holder block 1.

Referring to FIGS. 2 and 3, during installation, the mounting portions 332 of the guide rods 33 of the metal shielding  
15 shell 3 are plugged into respective through holes 41 of the circuit board 4, holding the bonding ends 21 of the terminals 2 in contact with respective contact fingers of the circuit board 4 and the protruding portions 34 closely attached to the circuit board 4 for grounding, and therefore the bonding ends 21 of the terminals 2  
20 and the protruding portions 34 can easily and accurately be soldered to the respective contact fingers and surface of the circuit board 4.

Referring to FIG. 4, the guide rods 33 can respectively be

turned outwards subject to the pitch between the two through holes 41 of the circuit board 4. Therefore, the metal shielding shell 3 fits different circuit boards.

As indicated above, the metal shielding shell of the present invention has the following advantages:

1. The metal shielding shell has two front guide rods for positioning on the circuit board to install, keeping the terminals and the protruding portions in position for soldering to respective contacts at the circuit board.

2. The front guide rods of the metal shielding shell give a protection to the bonding ends of the terminals during transportation or manufacturing process.

A prototype of metal shielding shell for electric connector has been constructed with the features of the annexed drawings of FIGS. 1~4. The metal shielding shell for electric connector functions smoothly to provide all of the features discussed earlier.

Although a particular embodiment of the invention has been described in detail for purposes of illustration, various modifications and enhancements may be made without departing from the spirit and scope of the invention. Accordingly, the invention is not to be limited except as by the appended claims.